

539163

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number
WO 2004/056726 A1

- (51) International Patent Classification⁷: C07B 59/00 (74) Agents: HAMMETT, Audrey, Grace, Campbell et al.; Amersham plc, Amersham Place, Little Chalfont, Buckinghamshire HP7 9NA (GB).
- (21) International Application Number: PCT/GB2003/005630 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 19 December 2003 (19.12.2003) (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (25) Filing Language: English (71) Applicant (*for all designated States except US*): HAMMERSMITH IMANET LIMITED [GB/GB]; Cyclotron Building, Hammersmith Hospital, Du Cane Road, London W12 0NN (GB).
- (26) Publication Language: English (72) Inventors; and (75) Inventors/Applicants (*for US only*): BRADY, Frank [GB/GB]; Hammersmith Imanet Limited, Cyclotron Building, Hammersmith Hospital, Du Cane Road, London W12 0NN (GB). LUTHRA, Sajinder, Kaur [GB/GB]; Hammersmith Imanet Limited, Cyclotron Building, Hammersmith Hospital, Du Cane Road, London W12 0NN (GB). ZHAO, Yongjun [CN/GB]; Hammersmith Imanet Limited, Cyclotron Building, Hammersmith Hospital, Du Cane Road, London W12 0NN (GB).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/056726 A1

(54) Title: SOLID-PHASE PREPARATION OF [¹⁸F]FLUOROHALOALKANES

(57) Abstract: The invention relates to a process for the production of an [¹⁸F]fluorohaloalkane which comprises treatment of a solid support-bound precursor of formula (I):SOLID SUPPORT-LINKER-SO₂-O -(CH₂)_nX (I) wherein n is an integer of from (1) to (7) and X is chloro, bromo or iodo; with ¹⁸F⁻ to produce the [¹⁸F]fluorohaloalkane of formula (II) ¹⁸F-(CH₂)_n-X (II)wherein n and X are as defined for the compound of formula (I), optionally followed by (i) removal of excess ¹⁸F⁻, for example by ion-exchange chromatography; and/or(ii) removal of organic solvent.